AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. **(currently amended)** A method [[for]] of configuring a downlink signal in an orthogonal frequency division multiplexing access-frequency division duplexing (OFDMA-FDD) mobile communication system, said method comprising:

(a) configuring a downlink frame with a plurality of symbols; and

(b) ~~inserting pilot subcarriers into~~ for each symbol, allocating a plurality of traffic subcarriers and a plurality of pilot subcarriers, said pilot subcarriers being distributed ~~to be distributively arranged therein~~ with respect to both time and frequency ~~a time axis and a frequency axis~~, a part of said pilot subcarriers being reference for a mobile station to perform time synchronization, frequency synchronization, and cell search.

2. **(currently amended)** A method [[for]] of configuring a downlink signal in an orthogonal frequency division multiplexing access-time division duplexing (OFDMA-TDD) mobile communication system, said method comprising:

(a) configuring a downlink frame with a plurality of symbols, the downlink frame and a seamless uplink frame forming a frame of the mobile communication system; and

(b) ~~inserting pilot subcarriers into~~ for each symbol, allocating a plurality of traffic subcarriers and a plurality of pilot subcarriers, said pilot subcarriers being distributed ~~to be distributively arranged therein~~ with respect to both time and frequency ~~a time axis and a frequency axis~~, a part of said pilot subcarriers being reference for a mobile station to perform time

synchronization, frequency synchronization, and cell search.

3. **(currently amended)** The method of claim 1, wherein the pilot subcarriers are distributed ~~inserted~~ at regular intervals with respect to time ~~domain~~, and are distributed ~~inserted~~ at irregular intervals with respect to frequency ~~domain~~.

4. **(currently amended)** The method of claim 3, wherein

said system comprises a plurality of cells; and

the pilot subcarriers are allocated to the cells ~~inserted~~ according to proper position sets of pilot subcarriers ~~proper to cells~~ so that the pilot subcarriers in adjacent cells are not superimposed.

5. **(currently amended)** The method of claim 4, wherein ~~proper position sets of pilot subcarriers are allocated in the case of adjacent cells, and position sets of pilot subcarriers are allocated so that the minimum subcarriers may be superimposed in the case of non adjacent cells~~ when the number of cells is greater than an available number of the proper position sets ~~of pilot subcarriers~~, the pilot subcarriers are allocated so as to minimize a number of pilot subcarriers that are superimposed in non-adjacent cells.

6. **(currently amended)** The method of claim 5, wherein ~~proper~~

the cells are divided into groups of cells;

a predetermined number of said pilot subcarriers are allocated for each cell, said ~~corresponding to a~~ predetermined number being generated by dividing the number of subcarriers by the number of cells; ~~are allocated for each cell, and as to insufficient pilot subcarriers, the cells are divided into cell groups including cells, and part of the proper~~

a remaining number of said pilot subcarriers are allocated to the cells which have the same position in different groups; and

said predetermined number and remaining number of said pilot subcarriers together

configure a proper position set of the pilot subcarriers for each cell.

7. **(currently amended)** The method of claim 6, ~~wherein, as to a prime number which is less than a value generated by dividing the number Nu of subcarriers by the number Np of subcarriers included in the cell group, a predetermined number of cells (less than the prime number) are combined to be a plurality of cell groups, a default sequence specified by a cell group number of i is allocated to each cell group, and the position set of pilot subcarriers is allocated to each cell of cell groups according to the subsequent equations: K={flC, 0, fif, 17 7 fK, gNp1} Iii(k)=v(k)+(ik) modg 11={, J=+(.9( )+j) modg} where K is a set of subcarriers for transmitting pilot subcarriers, v(k) is a specified pseudo random sequence having values of from 0 to (g-1), and is a set of pilot subcarriers having the cell group number of i and the cell number~~ wherein the proper position set K_{ig+j} of pilot subcarriers allocated to each j^{th} cell of each i^{th} cell group is determined according to the following equations

$$K = \{f_{K,0}, f_{K,1}, \cdots, f_{K,gNp-1}\}$$
$$h_i(k) = v(k) + (ik) mod g$$
$$K_{ig+j} = \{f_{K,r} \mid r = kg + (h_{imodg}(k) + j) mod g\}$$

where

g is a prime number that satisfies Nu/Np ≥ g;

Nu is the number of subcarriers;

Np is the number of subcarriers included in each cell group;

G is the number of cells in each cell group, wherein G < g;

K is a set of subcarriers $f_{K,0}$, $f_{K,1}$,...$f_{K,gNp-1}$ selected to be pilot subcarriers;

h_{imodg} is a default sequence allocated to the i^{th} cell group; and

v(k) is a specified pseudo random sequence having values from 0 to (g-1).

8. **(currently amended)** The method of claim [[6]] 7, wherein~~, as to a prime number~~

~~which is less than a value generated by dividing the number of subcarriers by the number of subcarriers included in the cell group, a predetermined number of cells (less than the prime number) are combined to be a plurality of cell groups, a default sequence specified by a cell group number of i is allocated to each cell group, and the position set of pilot subcarriers is allocated to each cell of cell groups according to the subsequent equations, and~~ the pilot subcarriers are not punctured and transmitted at a position other than the position of subcarriers used for transmission to the mobile station. ~~K=fjc, 0, fjc, 1, , fjc, gNp I I Zli (k)=v(1c)+(ik) modg/(/c)=(;)+( )mod</ where K is a set of subcarriers for transmitting pilot subcarriers, v(k) is a specified pseudo random sequence having values of from 0 to (g-1), and is a set of pilot subcarriers having the cell group number of i and the cell number~~

9. **(currently amended)** The method of claim 2, wherein [[the]] a position set of the pilot subcarriers allocated ~~applied~~ to the downlink frame is established to be different from [[the]] a position set of pilot subcarriers allocated ~~applied~~ to the frame in order to identify the downlink frame and the frame.

10. **(currently amended)** A device for configuring a downlink signal in an orthogonal frequency division multiplexing access-frequency division duplexing (OFDMA-FDD) mobile communication system having a plurality of cells, said device comprising:

a pilot generator for generating a pilot symbol pattern according to external cell number information and a position set pattern of pilot subcarriers,

the pilot symbol pattern defining ~~being inserted into~~ symbols of a ~~when the~~ downlink frame ~~includes the symbols~~, and

the position set pattern of pilot subcarriers being proper to each cell and including for each cell

a plurality of traffic subcarriers, and

a plurality of pilot subcarriers which are distributed ~~distributively~~

~~arranged~~ with respect to both time and frequency ~~the time axis and frequency axis~~ for each symbol and are references for a mobile station to perform time synchronization, frequency synchronization, and cell search; and

a symbol mapper for mapping external input traffic data information with respect to time and frequency based on the pilot symbol pattern and the position set pattern of pilot subcarriers generated by the pilot generator, and outputting mapped signals to a transmitter of the mobile communication system.

11-25. (canceled)

26. **(currently amended)** The method of claim 2, wherein the pilot subcarriers are distributed ~~inserted~~ at regular intervals with respect to time ~~domain~~, and are distributed ~~inserted~~ at irregular intervals with respect to frequency ~~domain~~.

27-31. (canceled)